

board, the connector including, *inter alia*, a connector body having a receiving part that extends along the front side of the module when the module is in a connection position, and a lateral supporting part that extends rearward from the receiving part to support a left side, a right side and a bottom of the module in the connection position, and a metallic cover pivotably connected to the connector body and movable to a position that sandwiches the module between the metallic cover and the supporting part to thereby maintain the module in the connection position.

In accordance with claim 1, the metallic cover includes a first connection means for connection to the receiving part of the connector body and a second connection means for connection to the lateral supporting part of the connector body. In accordance with claim 20, the metallic cover includes a window for exposing a semiconductor chip of the printed circuit board when the module is placed in the connection position, and a heat sink secured to the metallic cover to contact the semiconductor chip and dissipate heat therefrom.

It is respectfully contended that the proposed combination of Tondreault, either alone or in combination with Geib, Loo, or Cronin, fails to render the claimed invention obvious since it clearly fails to expressly teach or remotely suggest each and every claimed feature thereof. Further, it is contended that Tondreault, Geib, Loo, and Cronin clearly fail to provide the proper motivation or suggestion to combine their respective teaching to arrive at Applicants' claimed invention. Still further, there is no reasonable expectation of success in combining the teachings of Tondreault, Geib, Loo, and Cronin. In other words, a *prima facie* case of obviousness has not been established as required by MPEP § 2143 - 2143.03 (pages 2100-122 to 2100-136).

For instance, in the Office Action, the Examiner finds that Tondreault discloses a connector body (10) having a receiving part (14), a supporting part (24, 26) and a positioning mechanism (28, 30). The Examiner readily concedes, however, that Tondreault fails to disclose a metallic cover or a metallic cover having a heat sink. Consequently, Geib is cited in order to modify Tondreault, the Examiner contending that Geib discloses "a hinged, removable metallic cover (14) including first connection means (102) and second connection means (98), to keep a module in place."

However, as discussed during the interview, Tondreault includes locking members 34 having a ramped shaped locking head 36 such that the locking heads overlap the side edges of the module 12 in order to maintain the module 12 in the locked position, as disclosed in, e.g., col. 5, lines 47-50. The present invention, on the other hand, includes no such locking mechanism and utilizes the cover

in order to lock the module in place with respect to the connector body 210. As Tondreault already includes a locking mechanism to secure a module to a connector, there is no reasons or motivation, except that set forth by Applicants specification and claimed invention, for one of ordinary skill in the art to resort to the teachings of Geib in order to place a cover in connection with the connector body of Tondreault as suggested by the Examiner.

The Examiner responded to the arguments by asserting that it would be obvious to combine the cover of Geib with the electrical connector of Tondreault, even though Tondreault already has a locking mechanism, so as to provide "redundancy" for the locking mechanism of Tondreault. This assertion relating to "redundancy" as a suggestion or motivation was discussed during the interview and is summarized in the Interview Summary of January 8, 2003.

Applicants respectfully submit that, although redundancy may be a desirable feature to have in locking mechanism, microprocessors, life-support systems, and etc., there is no desire or need for a redundant locking means in Applicants' claimed connector, or the connectors of Tondreault, Geib, or Loo. In other words, neither the presently claimed invention nor the cited prior art references teaches or suggests a necessity for a redundant locking mechanism such that one would add the cover of Geib to the connector of Tondreault so as to provide a redundant means to secure a module to a connector in addition to the existing locking mechanism of Tondreault.

Further, in order to incorporate the cover of Geib as a redundant locking mechanism in addition to the existing locking mechanism of Tondreault, one would have to take into consideration the technical and economic factors. For example, adding a redundant feature would undesirably increase complexity, cost, size, and weight, for example, of a connector. Hence, without suggestion or motivation in any of the cited prior art references for redundancy, the Examiner's reasoning is completely insupportable.

Still further, in order to combine the hinged cover of Geib with connector of Tondreault to arrive at the presently claimed invention, at least some physical modification would be necessary. For example, an issue would be the modification of the resilient springs 94 in the cover 90 of Geib such that the cover would be usable in the connector of Tondreault or the presently claimed invention. Applicants respectfully submit that none of the cited prior art teaches, discloses, or suggests how to modify their teachings so that they can be combined and functional.

It is well settled that when combining the references in order to support a prima facie case of

obviousness, the references must be considered in their entirety. It is further settled that the mere fact that the prior art may be modified to reflect features of the claimed invention does not make the modification and hence the claimed invention obvious unless the desirability of such modification is suggested by the prior art itself. Moreover, the claimed invention cannot be used as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious, *In Re Fritsch*, 23 USPQ2d 1780 (Fed. Cir. 1992). Additionally, the statements and facts at issue set forth in a reference leading one of ordinary skill in the art away from the proposed modification must also be fully considered when combining references in order to support a *prima facie* case of obviousness.

Furthermore, Geib clearly lacks an express or implicit teaching that renders the metallic cover as defined in claims 1 and 20 *prima facie* obvious. In particular, there is no showing, either expressly or implicitly, in the teachings of Geib, of a metallic cover that includes the combination of: (1) a first connection means for connection to a receiving part of the connector body, and (2) a second connection means for connection to a lateral supporting part of the connector body.

With respect to Loo, Loo clearly lacks several features set forth in the metallic cover defined in the claimed invention. For instance, while the Examiner describes Loo as disclosing "a cover (16) having...a heat sink (20)," there is no such disclosure throughout the entire Loo patent. The cover (16) and the heat sink (20) of Loo are two entirely separate structures, not a single structure as is set forth in the claimed invention. On the other hand, claim 20 recites that the heat sink be secured to the metallic cover in order to contact the semiconductor chip and dissipate heat therefrom. Therefore, Loo is deficient for failing to disclose an integral cover-heat sink structure, such as that which is claimed at least in claim 20 of the present invention.

Moreover, there is nothing in Loo that remotely suggests that the cover (16) can be modified to include a heat sink. This fact is further enhanced in that the cover (16) of Loo is not composed of a metallic material. In particular, Loo discloses that the cover (16) "is made of a well known polymer material, such as polphenylene sulfide." It is well known throughout the art that polymers do not act as thermal conductors, and thus, are not desired when it is required that a component function in high thermal load environments.

Regarding Cronin, inasmuch as the combined teachings of Tondreault and Geib fail to teach each and every feature of the invention, their combination with Cronin would still fail to render these


claims *prima facie* obvious.

In view of the arguments set forth above, Applicants respectfully request reconsideration and withdrawal of all the pending rejections.

Conclusion

In view of the above-presented arguments, since the claimed invention clearly defines over the prior art of record, Applicants respectfully contend that the pending claims are in condition for allowance. Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,
NIXON PEABODY LLP



Thomas W. Cole
Registration No.: 28,290

Date: January 21, 2003

8180 Greensboro Drive, Suite 800
McLean, Virginia 22102
Telephone: (703) 790-9110
Facsimile: (703) 770-9400

TWC/lcd